

REMARKS

Claims 21-23, 26-28, 64, 65 and 68-73 are amended. Claims 21-28 and 64-75 are in the application for consideration.

Each of the amended claims clarifies that which was already inherent in such claims, namely that the recited aluminum nitride is a dielectric material. Such is inherent from Applicant's application as-filed. For example, Applicant clearly in the context of DRAM circuitry and the other disclosed attributes of its application as-filed is disclosing formation of a dielectric aluminum nitride material. To infer or conclude otherwise in the context of the claims herein presented would result in inoperable devices. Accordingly, the amendments made herein were inherent in such claims, and do not further narrow such claims.

Applicant's independent claim 21 stands rejected as being obvious over a combination of U.S. Patent No. 6,294,420 to Tsu et al. in view of U.S. Patent No. 6,358,810 to Dornfest et al. Applicant disagrees and requests reconsideration.

Tsu et al. is apparently relied upon by the Examiner in its disclosure of DRAM circuitry. However, the Examiner acknowledges that there is no reference in Tsu et al. to aluminum nitride comprising capacitor dielectric regions. The Examiner relies upon Dornfest et al. for such alleged teachings. However, the Examiner is mistaken. The Examiner refers to columns 34-49 of Dornfest et al. However, the undersigned notes that there are only 12 columns in the Dornfest et al. patent, and accordingly the

reference to columns 34-49 is believed to be a typographical error. The Examiner also refers to column 4, lines 18-68. Regardless, the undersigned has reviewed the entirety of the Dornfest et al. patent and only finds reference to a tuning layer or a diffusion barrier material comprising titanium aluminum nitride and tantalum aluminum nitride, and is questioning whether one or two of these materials is that to which the Examiner asserts renders Applicant's independent claim 21 obvious. If so, the undersigned disagrees.

Specifically, tantalum aluminum nitride and titanium aluminum nitride are conductive materials. For example, col.4, Ins.62-67 of Dornfest et al. provides,

"As shown in FIG. 2, the lower electrode 38 includes a titanium layer 44, preferably between about 50 Å and about 500 Å thick, as well as a titanium aluminum nitride layer 46, preferably between about 50 Å and about 500 Å thick, both acting as diffusion barrier layers."

Accordingly, Dornfest et al. is clearly teaching that the titanium aluminum nitride layer (as well as the tantalum aluminum nitride layer, referred to above) constitute a part of its electrode, and thereby such is electrically conductive. Even the applied Tsu et al. patent teaches that Ti-Al-N is a conductive material. (See: col.4, Ins.34-38). Accordingly, reference to these different nitride materials are relative to conductive layers, not a dielectric material constituting a part of the capacitor dielectric region.

Applicant's independent claim 21 recites a capacitor dielectric region comprising a dielectric aluminum nitride. As asserted above, neither Tsu et al. nor Dornfest et al. refers to a dielectric aluminum nitride comprising material as constituting at least a portion of a capacitor dielectric region.

Accordingly, as neither Tsu et al. nor Dornfest et al. disclose the very material recited by Applicant in its claim, the combination of such references does not render obvious that which Applicant recites in independent claim 21. Accordingly, such should be allowed, and action to that end is requested.

Applicant's dependent claims should be allowed as depending from allowable base claims, and for their own recited features which are neither shown nor suggested in the cited art. Regarding the cited Carpenter patent, it in no way is referring to fabrication of capacitor dielectric regions of capacitors, rather it merely is disclosing a protective coating for various devices. Such is not material to capacitor dielectric regions. Accordingly, it does not overcome any of the deficiencies identified above with respect to the Tsu et al. and Dornfest et al. references.

This application is believed to be in immediate condition for allowance, and action to that end is requested.

Respectfully submitted,

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By: 
Mark S. Matkin
Reg. No. 32,268